List of Claims:

1. (currently amended) An imaging system comprising:

a first imager configured to capture an image of an object in a spatial domain and generate first spatial-domain image data, wherein the object is illuminated by an incoherent light source;

a spatial light modulator configured to receive the first spatial-domain image data and a beam of coherent light, and generate diffracted light rays;

a transform lens configured to transform the diffracted light rays into a diffraction pattern;

a second imager having an array of photocells, wherein the second imager is configured to capture the diffraction pattern in a spatial frequency domain and generate spatial frequency-domain image data; ~~and~~

an image processor that receives the spatial frequency-domain image data from the second imager and transforms the spatial frequency-domain image data into a second spatial-domain image data; and

a display configured to display both the second spatial-domain image data and the diffraction pattern.

2. (previously presented) The imaging system of claim 1, where the spatial frequency-domain image data contains noise, the system further comprising a filter that

detects and removes the noise before the system transforms the spatial frequency-domain image data into second spatial-domain image data.

3. (previously presented) The imaging system of claim 1, further comprising a user interface that displays both the second spatial-domain image data and the diffraction pattern.

4. (previously presented) The imaging system of claim 1, wherein the transform lens performs an approximate Fourier transform on the diffracted light rays.

5-14. (cancelled)

15. (currently amended) A method that minimizes point defects in an image, comprising:

illuminating an object using an incoherent light source;

capturing a first image of the object in a spatial domain;

generating first spatial-domain image data;

using a spatial light modulator configured to receive the first spatial-domain image data and a beam of coherent light, and generate diffracted light rays;

transforming the diffracted light rays into a diffraction pattern;

capturing the diffraction pattern in a spatial frequency domain;

producing spatial frequency-domain image data corresponding to the captured diffraction pattern; ~~and~~

converting the spatial frequency-domain image data into a second spatial-domain image data; and

displaying both the second spatial-domain image data and the diffraction pattern.

16. (original) The method of claim 15, further comprising detecting and removing noise from the captured spatial frequency-domain image data.

17. (previously presented) The method of claim 15, further comprising transferring the spatial frequency-domain image data to an image processor, the image processor inverse Fourier transforming the frequency-domain image data into the second spatial domain image data.

18. (previously presented) The method of claim 15, wherein the transforming is achieved by a transform lens performing an approximate Fourier transform on the diffracted light rays.

19. (previously presented) The method of claim 15, further comprising storing the second spatial-domain image data in digital memory.

20-22. (cancelled)